March 24, 1964 D. J. SABIA 3,126,206

PRACTICE GOLF CLUB AND TETHERED BALL

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FIG. 1

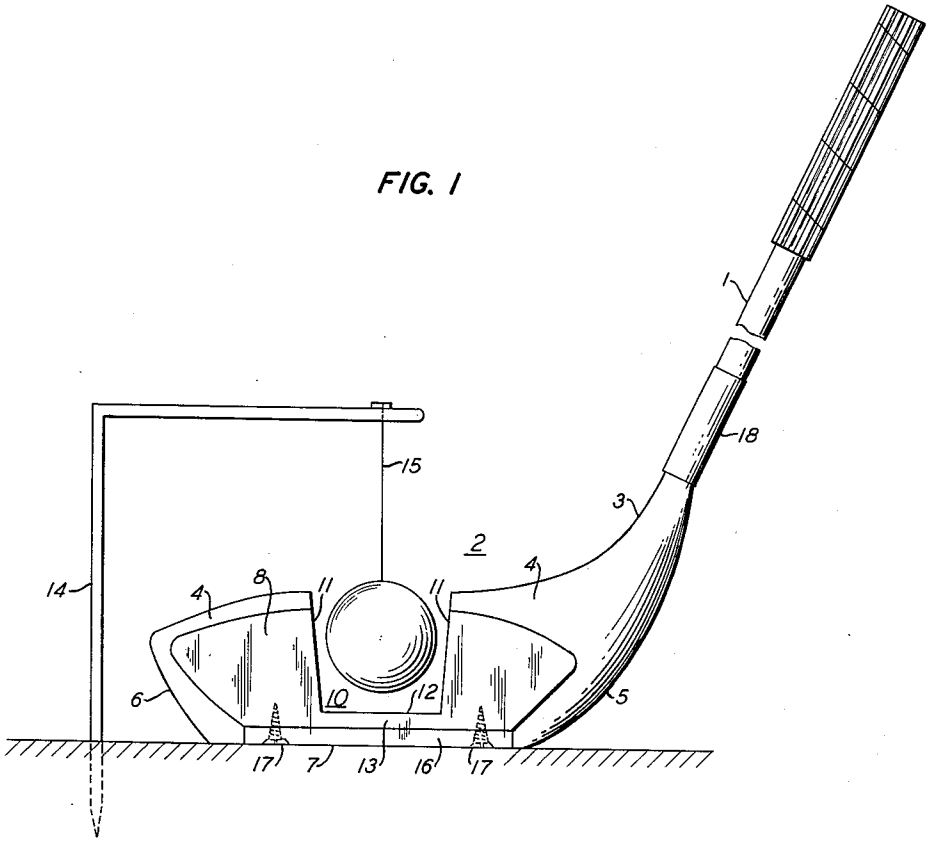
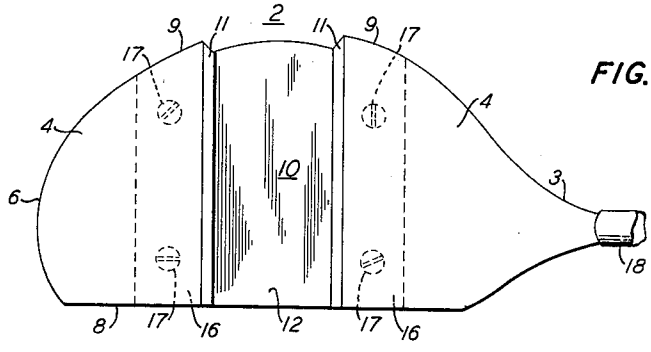


FIG. 2



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PRACTICE GOLF CLUB AND TETHERED BALL

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This invention relates to golfing apparatus, and more particularly, to practice devices for improving a golfer's swing.

Physical principles dictate that in order for a projectile to be propelled through space in a particular direction, it must experience a force vectorially aligned with the desired course of travel. When applied to a golf shot, these principles pronounce that the initial direction of travel of the ball, in azimuth, is coplanar with the arc described by the movement of the club face during impact. In other words, proper motion of the club head at the so-called "bottom of a swing" is critical in accomplishing a satisfactory shot. Although these principles are probably well known to the majority of golfers, their corrective application to the game usually requires considerable practice. In order to practice the golf swing constructively, it is imperative that the one practicing receive some indication of the swing's quality so that corrective measures may be taken if necessary.

Accordingly, it is an object of this invention to indicate the quality of a practice golf swing.

It is another object of this invention to indicate at the conclusion of a practice swing whether or not club head motion relative to the ball was satisfactory at the impact position of the stroke. A related, but more specific object of the invention, is to indicate if the motion of the club head at the impact position is properly aligned with the ball's desired direction of travel.

It is another object of the invention to simulate a golf shot and indicate its quality without the necessity of impact between club head and ball.

The objects of the invention are accomplished, broadly, by a golf club which is constructed to include a hollow, open-ended channel extending through the front and rear surfaces of its head. In the embodiment of the invention to be described below, the channel assumes the form of a depression in the upper surface of the head which commences at the face of the club, completely traverses the head in a rearwardly direction and is sufficiently wide throughout to admit passage of a golf ball through its entire length.

The objects and features of the invention will be more thoroughly understood by reference to the following detailed description of a preferred embodiment of the invention in conjunction with the drawing, of which FIGS. 1 and 2, respectively, illustrate front and top views of a golf club constructed in accordance with the principles of the invention. Identical parts of the club are designated by the same reference numeral in both figures of the drawing.

With reference to the drawing, FIGS. 1 and 2 being considered jointly, a golf club is shown comprising a thin tapered shaft 1 of circular cross section coupled to a club head 2 by a collar 18. Shaft 1 is preferably constructed of a resilient material and includes a rubberized gripping sleeve coaxially disposed on the shaft at the end remote from club head 2. As shown in the drawing, club head 2 comprises a neck 3, an upper surface 4, a heel 5, a toe 6, an under surface 7, a face 8, and a rear surface 9. Neck 3 is circular in cross section at its upper extremity and extends downwardly with increasing diameter toward lower surface 7 at approximately a sixty degree angle. The club head is bounded on its four sides by face 8, toe 6, rear surface 9, and heel 5.

While face 8 is substantially flat, being the surface on an ordinary golf club which strikes the ball, toe 6, rear surface 9 and heel 5 form a single, continuous, circularly curved surface. The four sides of club head 2 extend downwardly to a common lower surface 7, and three of the sides, namely face 8, toe 6 and rear surface 9, extend upwardly to a common upper surface 4. At a point remote from toe 6, upper surface 4 curves upwardly in a concaved manner and continues into the front surface of neck 3. Heel 5 extends upwardly at approximately a sixty degree angle to lower surface 7 and, being curved, continues into the back surface of neck 3.

According to the invention, a centralized, open channel 10, comprising side walls 11 and a floor 12, extends vertically downward into the club head from upper surface 4 toward lower surface 7. As shown, channel 10 is open at both ends, commencing at face 8 and extending perpendicularly rearward through rear surface 9, and may taper slightly as it proceeds downwardly. In effect, club head 2 is divided by channel 10 into two separate sections which are joined together at the base of the channel by a thin bridge 13. It will become evident from a description of the manner in which the invention is preferably used that the average width of channel 10, that is to say the average distance separating side wall 11 from each other, is usually slightly larger than the diameter of a conventional golf ball, one and three-quarters inches for example.

In order to indicate the quality of one's swing by means of the invention, or more specifically, to determine whether or not club head motion at the impact position of the swing is properly aligned with the ball's desired direction of travel, a relatively small object, preferably a light-weight sphere of durable material and having the dimensions of a conventional golf ball, is supported above ground at a height which is slightly in excess of the thickness of bridge 13. Preferably, the sphere is supported by an angular suspension arm 14 which is driven upright into the ground from one end, while the sphere, or simulated golf ball, is suspended by a flexible filament 15 from the other end. Once this has been accomplished, the golfer addresses the sphere as he would a golf ball in preparation for a normal shot, and in so doing usually positions club head 2 such that the vertical plane longitudinal bisecting channel 10 not only bisects the sphere, but in addition, is aligned with the direction in which it would be desired to propel the sphere were the sphere a golf ball. Lastly, the golfer simulates an actual golf shot by exercising his normal swing and then observing whether or not the sphere has remained substantially stationary throughout. If the swing is satisfactory, that is to say, if in the vicinity of the sphere club head 2 describes an arc which is both substantially coplanar with the vector defining the desired direction of the ball in the simulated shot and substantially tangent to the ground, the sphere passes through channel 10 without engaging either one of side walls 11 or floor 12. On the other hand, if the motion of the club head in the vicinity of the sphere includes a component of more than negligible magnitude in a direction transverse to the vertical plane longitudinally bisecting the channel, which normally results in a ball's curving from its straight course in flight, the sphere will be struck by one of the side walls 11. Accordingly, if the sphere remained stationary during the simulated shot, it is an indication that the golfer's swing was satisfactory from the standpoint of proper club head motion.

As shown in the drawing, under surface 7 of the club head includes a recessed area, extending from face 8 to rear surface 9, in which a plate 16 is fitted and secured in position by a plurality of screws 17. Since bridge 13 is a relatively thin member, but positioned to receive

severe shock during a practice swing, plate **16** is preferably constructed of a sturdy metal so as to serve as a reinforcing member for the bridge. In addition, the metal from which plate **16** is fabricated may be sufficiently heavy to compensate for the loss in club weight due to the presence of channel **10**. Although the use of one or more properly weighted reinforcing plates **16** to bring the weight of the invention up to the weight of a conventional golf club is particularly advantageous, for example, because the weight of a finished club may be varied by the simple expedient of changing plates, it should be evident that numerous other methods are available for suitably weighting the club.

Although only a single embodiment of the invention is described herein, it should be evident that numerous other arrangements may be devised without departing from the spirit and scope of the invention.

What is claimed is:

1. A golf club adapted to indicate the quality of a practice swing comprising; in combination; a shaft; a club head; said club head including a substantially planar face surface, a body which extends rearwardly therefrom to an arcuate rear surface, a top surface, and a substantially planar bottom surface positioned with respect to said shaft for striking engagement with the ground during said practice swing; and means for coupling said shaft to said club head such that the axis of said shaft both lies in a plane substantially parallel to the plane of said face surface and is angular to the plane of said bottom surface; said club head integrally including a depression in said top surface thereof in the form of a straight, hollow, open-ended channel commencing at said face surface and extending rearwardly therefrom through said rear surface; said depression descending downward from said top surface toward said bottom surface such that the depth of said channel is substantially coextensive with the vertical dimension of said club head, and only a thin bridge exists between the bottom of said channel and said bottom surface; the width of said channel throughout its entire length being of sufficient dimension to admit passage of a golf ball therethrough.

2. A golf club in accordance with claim 1 wherein said bottom surface comprises a reinforcing plate.

3. A golf club in accordance with claim 2 wherein said reinforcing plate is suitably weighted to compensate for the weightless void of said channel.

4. Golf training apparatus comprising a simulated golf ball; an angular suspension arm; and a filament for suspending said simulated ball from said arm; a golf club comprising a shaft; a club head; said club head including frontal, rear, top and bottom surfaces; and means for coupling said shaft to said club head such that said bottom surface is positioned for striking engagement with the ground during a golf swing with said club; said club head intergrally including a depression in said top surface thereof in the form of a straight, hollow, open-ended channel extending continuously from said frontal surface to said rear surface; said depression descending downward from said top surface toward said bottom surface such that the depth of said channel is substantially coextensive with the vertical dimension of said club head, and only a thin bridge exists between the bottom of said channel and said bottom surface; the width of said channel throughout its entire length being of sufficient dimension to admit passage of said simulated golf ball therethrough.

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